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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,394	02/12/2004	John P. Nohl	67341-2034; 04ARM0127	5771
26096	7590	12/03/2007		
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			EXAMINER LUKS, JEREMY AUSTIN	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 12/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/777,394	Applicant(s) NOHL ET AL.	
	Examiner Jeremy Luks	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 14-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Peube (5,655,367). Peube teaches a powertrain control system (Figures 1 and 3) comprising an exhaust muffler (Figure 1, pipe #1 could be a muffler) including a housing (1a) having an exhaust passage (see arrow #7 depicting flow through exhaust pipe #8); and a valve (3, 14) supported by said housing and arranged in said exhaust passage (clearly seen in Figures 1 and 3) movable between multiple positions for tuning said exhaust muffler (Col. 3, Lines 34-65); wherein an exhaust gas (7) flows through said exhaust passage, with substantially all of said exhaust gas (7) flowing through a valve (3) in each of multiple positions (Col. 4, Lines 41-43), said valve increasing a backpressure within said exhaust passage (1) by increasingly blocking said exhaust passage (1) with said valve (3); and comprising an electrical actuator (5, 15) supported by said housing (1), said electrical actuator (5, 15) actuating said valve between said multiple positions (Col. 4, Lines 41-43; Col. 5, Lines 9-12).
2. Claims 3, 5-6, and 11-12, are rejected under 35 U.S.C. 103(a) as being unpatentable Peube (5,655,367) in view of Lawrence (5,388,408). Peube teaches a powertrain control system (Figures 1 and 3) comprising an exhaust muffler (Figure 1,

pipe #1 could be a muffler) including a housing (1a) having an exhaust passage (see arrow #7 depicting flow through exhaust pipe #8); and a valve (3, 14) supported by said housing and arranged in said exhaust passage (clearly seen in Figures 1 and 3) movable between multiple positions for tuning said exhaust muffler (Col. 3, Lines 34-65); wherein an exhaust gas (7) flows through said exhaust passage, with substantially all of said exhaust gas (7) flowing through a valve (3) in each of multiple positions (Col. 4, Lines 41-43), said valve increasing a backpressure within said exhaust passage (1) by increasingly blocking said exhaust passage (1) with said valve (3); and comprising an electrical actuator (5, 15) supported by said housing (1), said electrical actuator (5, 15) actuating said valve between said multiple positions (Col. 4, Lines 41-43; Col. 5, Lines 9-12); a position sensor (17b) detecting said multiple positions of said valve (14) (Col. 5, Lines 5-15), said position sensor (17b) communicating to said controller (16), wherein said controller (16) determines a malfunction condition based upon information from said position sensor (17b) (Col. 3, Line 66-Col.4, Line 3). Peube fails to teach wherein said housing includes a main housing portion and an actuator mounting pipe extending exteriorly away from said main housing portion, and an inlet pipe extending exteriorly away from said main housing portion proximate and generally parallel to said actuator mounting pipe; wherein said exhaust passage includes a valve body supporting said valve with a shaft extending into said valve body and said valve secured to said shaft, said electrical actuator rotating said shaft to move said valve between said multiple positions; and a rod is arranged transverse to said shaft; and wherein said exhaust passage is in fluid communication with a tuning chamber and said tuning

chamber is in fluid communication with an outlet pipe carrying exhaust gas from a main housing portion. Lawrence teaches an exhaust muffler (Figure 3) comprising a housing (Figure 16, #100); a valve (40) supported by said housing (100) and arranged in said exhaust passage (104) movable between multiple positions for tuning said exhaust muffler (Col. 8, Line 60-Col. 9 Line 3); and an electrical actuator (114) supported by said housing (100); wherein said housing (Figure 26, #150) includes a main housing portion (160) and an actuator mounting pipe (80', 162) extending exteriorly away from said main housing portion (160), and an inlet pipe (156) extending exteriorly away from said main housing portion (160) proximate and generally parallel to said actuator mounting pipe (80', 162) an exhaust passage (Figure 16, #104) includes a valve body (102) supporting said valve (40) with a shaft (108) extending into said valve body (102) and said valve (40) secured to said shaft (108), said electrical actuator (114) rotating said shaft (108) to move said valve (40) between said multiple positions; and a rod (Examiner is referring to the shaft portion secured between gear #112 and electrical actuating motor #114) is arranged transverse to said shaft (108), and said electrical actuator (114) moving said rod generally linearly to rotate said shaft (108); and wherein said exhaust passage (104) is in fluid communication with a tuning chamber (26) and said tuning chamber (26) is in fluid communication with an outlet pipe (30) carrying exhaust gas from a main housing portion. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Peube, with the apparatus of Lawrence to provide a specific, known valve and actuator apparatus to perform the functions of the generic valve and actuator means shown by

Peube. Further, simple substitution the known valve and actuator of Lawrence with the generic valve and actuator shown by Peube to yield the predictable result of actuating a valve assembly would have been obvious to one of ordinary skill in the art. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007)

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peube (5,655,367) in view of Lawrence (5,388,408) as applied to Claim 3 above, and further in view of Matsumoto (JP 2003161149 A). Peube and Lawrence are relied upon for the reasons and disclosures set forth above. Peube and Lawrence fail to teach at least one heat shield is arranged between said electrical actuator and said inlet pipe. Matsumoto teaches a heat shield (Figure 4, #72) outside of an inlet pipe (66), and when used in combination, between an inlet pipe and electrical actuator. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Peube as modified, with the apparatus of Matsumoto in order protect the electrical actuator from damage due to the heat produced within the exhaust housing.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peube (5,655,367) in view of Lawrence (5,388,408) as applied to Claim 6 above, and further in view of Yashiro (5,739,483). Peube and Lawrence are relied upon for the reasons and disclosures set forth above. Peube and Lawrence fail to teach wherein said housing includes a stop limiting travel of at least one of said rod and said shaft. Yashiro teaches a housing (Figure 2, #1) including a stop (19) limiting travel of a shaft (15). It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the apparatus of Peube as modified, with the apparatus of Yashiro to better support the shaft and rod, increasing the durability of the valve mechanism.

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peube (5,655,367) in view of Lawrence (5,388,408) as applied to Claim 5 above, and further in view of Yashiro (5,739,483). Peube and Lawrence are relied upon for the reasons and disclosures set forth above. Peube and Lawrence fail to teach wherein said housing includes an actuator mounting pipe extending into a main housing portion, and a first bearing arranged on said actuator mounting pipe supports one end of said shaft and a second bearing arranged on said valve body supports another end of said shaft.

Yashiro teaches wherein a housing (1) includes an actuator mounting pipe (Figure 1, #8) extending into a main housing portion (2), and a first bearing (Figure 2, #18) arranged on said actuator mounting pipe (8) supports one end of said shaft (15) and a second bearing (18) arranged on said valve body supports another end of said shaft (15). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Peube as modified, with the apparatus of Yashiro to better support the shaft and rod, increasing the durability of the valve mechanism.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peube (5,655,367) in view of Lawrence (5,388,408) as applied to Claim 1 above, and further in view of Tadokoro (4,926,636). Peube and Lawrence are relied upon for the reasons and disclosures set forth above. Peube and Lawrence further teach a powered electrical actuator. Peube and Lawrence fail to teach a return spring biasing a valve to one of a multiple positions in the event of power loss of the electrical actuator.

Tadokoro teaches teach a return spring biasing (Figure 1, #26b) a valve (25) to one of a multiple positions (Col. 6, Lines 5-22), and would be capable of doing so in the event of power loss of the electrical actuator described by Peube and Lawrence when used in combination. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Peube as modified, with the apparatus of Tadokoro to return the valve to an open state in the event of a malfunction.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peube (5,655,367) in view of Lawrence (5,388,408) as applied to Claim 5 above, and further in view of Douglas (5,290,974). Peube and Lawrence are relied upon for the reasons and disclosures set forth above. Peube and Lawrence fail to teach wherein said housing includes a main housing portion having at least one baffle supporting an outer shell with at least one of said at least one baffle and said valve body including locating features providing a desired orientation between said at least one baffle and said valve body. Douglas teaches a housing (Figure 4) including a main housing portion having at least one baffle (46) supporting an outer shell (44) with at least one of said at least one baffle (46) and said valve body (62) including locating features (50, 66) providing a desired orientation between said at least one baffle (46) and said valve body (62). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Peube as modified, with the apparatus of Douglas to provide a tab and notch alignment apparatus for an exhaust system which does not require the additional cost of aligning and welding steps during production.

Allowable Subject Matter

8. Claims 14-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1-9 and 11-13 have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers the obvious combination of Peube, Lawrence, Matsumoto, Tadokoro, Yashiro and Douglas to teach all of the limitations as claimed by Applicant in claims 1-9 and 11-13.

Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

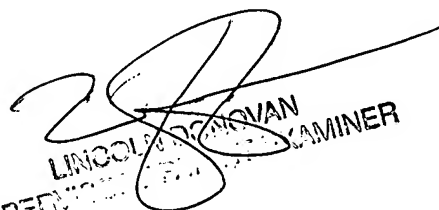
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremy Luks 
Patent Examiner
Art Unit 2837
Class 181


LINCOLN DONOVAN
SUPERINTENDING EXAMINER